BRIDGE Day 4
Independent Practice
Quadratic expressions

KING'S MATHS SCHOOL

1 Simplify

a) $(4+x)(4-x)$ b) $\left(4+\sqrt{x}\right)\left(4-\sqrt{x}\right)$

c) $\left(2+\sqrt{x+4}\right)\left(2-\sqrt{x+4}\right)$

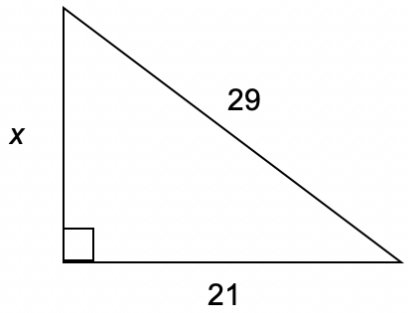
d) $\left(\sqrt{x+5}+\sqrt{x+4}\right)\left(\sqrt{x+5}-\sqrt{x+4}\right)$

2 Factorise

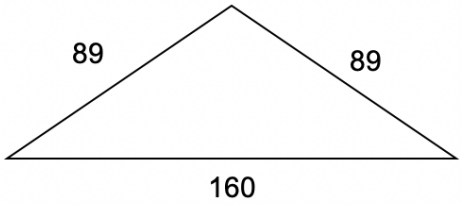
a) $81-x^2$ b) $81-16x^4$ c) $81x^2-16x^4$

3 Work out (no calculators):

a)



b) The area of



4 Complete the square in

a) x^2+8x+2 b) x^2+x c) x^4+x^2+2

5 Complete the square, then factorise as the difference of two squares

a) x^2+6x-7 b) x^2+6x-3 c) $x+\frac{6}{x}+2$

6 Factorise

a) x^2+x-20 b) x^4+x^2-20

b) $12x^2+x-20$ c) $12x^2-43xy-20y^2$

7 Simplify

a) $\frac{x^2+x}{x}$ b) $\frac{x^2+x}{x^2-x}$

c) $\frac{x^2+x-2}{2x-2}$ d) $\frac{x+\sqrt{x}-2}{2x-2}$

8 How many **different** factorisations are there of the form $(ax+b)(cx+d)$ where *a, b, c, d* are all integers that, when expanded, simplify to

a) x^2+Mx+7 *M* is an integer

b) $15x^2+Nx+16$ *N* is an integer